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(54) Title of Invention

Television Broadcast Recording Apparatus

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(72) Inventor Aoki Yutaka  
c/o Fujitusu General Inc.  
1116, Suenaga  
Takatsu-ku, Kawasaki-shi, Kanagawa-ken

(71) Applicant Fujitusu General Inc.  
1116, Suenaga  
Takatsu-ku, Kawasaki-shi, Kanagawa-ken

(74) Representative      Patent Attorney Nagao Tsuneaki

SPECIFICATION

1. Title of Invention

Television Broadcast Recording Apparatus

2. Patent Claims

(1) A television broadcast recording apparatus, comprising:

a television receiver; and

an external memory, which is capable of recording for a predetermined time broadcast content of a specified channel received by said television receiver,

wherein an index is appended to said broadcast content, and updated recording is caused, in said external memory.

(2) The television broadcast recording apparatus according to claim 1, wherein said index comprises date and time data.

(3) The television broadcast recording apparatus according to claim 1, wherein said index comprises titles displaying content of said programs.

### 3. Detailed Description of the Invention

#### [Field of Use in Industry]

The present invention relates to an apparatus, which enables optional replaying of content of a television broadcast after the broadcast has terminated.

#### [Prior Techniques]

As an apparatus that can record program content of television broadcasts, there is a VTR (video tape recorder), which, quite conveniently, can replay the program content at any arbitrary time.

#### [Problem to be Solved by the Invention]

However, such a VTR can only record the content of broadcasts. Therefore, in cases where multiple broadcast contents are recorded and they are replayed at a later time, it is often the case that it is troublesome to perform searching operations for desired programs.

An object of the present invention is to provide a television broadcast recording apparatus, in which searching for programs is extremely easy.

#### [Means for Solving the Problem]

For this purpose, the present invention provides a television receiver, and an external memory, which is capable of recording for a predetermined time broadcast content of a specified channel received by said television receiver, wherein an index is appended to said broadcast content, and updated recording is caused, in said external memory.

[Embodiment]

An embodiment of the present invention shall be described below. FIG. 1 shows a block diagram of a first embodiment, wherein 1 is a television receiver having a function to reproduce program content of a television broadcast received through an antenna 2. 3 is an external memory capable of endless recording while erasing and rerecording. Any of a VTR, a perpendicular magnetization VTR, a replaceable optical disk, or others, can be used as the external memory. 4 is a timer, which serves to append date and time data to the recorded image data stored in the external memory 3. 5 is a date/time setting unit, which operates as a searching means.

In this embodiment, a channel of the television receiver 1 is fixed to one specified channel, and when the external memory 3 is set in a recording mode, image and sound data from broadcasts of the concerned channel are recorded in the external memory, together with date and time data input from the timer 4. When recording has been conducted up to the full capacity of the external memory 3, then new (updated) recording is conducted while the contents already recorded in an initial recording region are erased. As a result, such recording is performed in an endless manner. Thus, for example, if the capacity of the external memory 3 is sufficient for one week, the content of the most recent

week's television programming will always be recorded in the external memory 3.

For replaying a program, after setting the external memory 3 in a readout mode, and when, for example, a television program table from a newspaper or the like is referred to, and date/time data (program starting time data) at which a desired program was broadcast is input from the date/time setting unit 5, such date/time data serves as a search code and is transmitted to the external memory 3, whereby a readout is initiated of the portion following the part corresponding to the aforementioned data. Accordingly, based thereon, replaying is carried out by the television receiver 1.

FIG. 2 is a diagram illustrating a replay pattern. For example, when time data  $T_a$  is input from the date/time setting unit 5 replaying is initiated from the beginning of program a, when time data  $T_b$  is similarly input, replaying is initiated from the beginning of program b, and when time data  $T_c$  is similarly input, replaying is initiated from the beginning of program c.

In the aforementioned system, it is not necessary for the date/time data to be replayed, and therefore replaying is performed after such data has been removed by appropriate processing circuitry.

Further, with the aforementioned system, date/time data has been used as an index for program searching. However, in

the case where program titles are transmitted as data from broadcasting stations, such titles can be recorded as indexes, so that when replaying programs, titles can be searched to cause replaying of desired programs. In this case, even if the program chart from a newspaper or the like is not referred to, searching can be performed by means of a menu system, causing replay while focusing on titles only.

FIG. 3 shows an explanatory diagram of such an example. By keying in "8#" on the first menu, the menu changes and is replaced by a "Music" menu. When the code corresponding to a desired artist, for example "\*5#", is keyed in, a "Mills Brothers" program (30 minutes) is replayed.

An explanation has been given above of a case concerning only one individual channel. However, if the television receiver is provided with multiple tuners and signal processors, which can simultaneously receive multiple channels, and the external memory similarly is set up with a capacity capable of recording portions from multiple channels, it is possible to perform subsequent searching and replaying with respect to a plurality of channels.

#### [Effect of the Invention]

As described above, according to the present invention, arbitrary programs, from the content of multiple programs that are broadcast spanning a comparatively long time period, can be easily searched and replayed.

4. Brief Description of the Drawings

FIG. 1 is a block diagram of a television broadcast recording apparatus according to an embodiment of the present invention, FIG. 2 is an explanatory diagram of a search performed thereby, and FIG. 3 is an explanatory diagram of another search example.

Representative Patent Attorney Nagao Tsuneaki

FIG. 1  
第 1 図

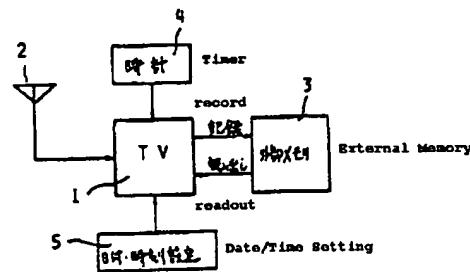


FIG. 2 第 2 図

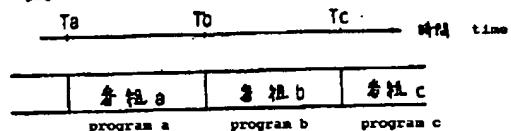


FIG. 3 第 3 図

